REMARKS

Claims 23-51 are pending in this application. The Examiner allowed claims 36 and 45-51, rejected claims 23-30, 32-35, 37-42 and 44, and objected to claims 31 and 43. Applicants are amending claim 38. Applicants request (re)consideration and allowance of claims 23-35 and 37-44.

Rejections under 35 U.S.C. § 102

In paragraph 2, the Examiner rejected claims 23, 24, 27-30, 32-35, 37, 39, 42 and 44 under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent Number 4,821,208 to Ryan et al. (hereinafter "Ryan"). The Examiner asserted that Ryan teaches

> - a codeword portion for storing at least two codewords (Fig.
> 1: color map RAM 4 or 5 or 6);
> - a bitmap portion for storing a set of indices (Fig. 1: index
> register 17 or 27 or 37);
> wherein said codewords define at least three colors that
> approximate the pixel color set (col. 4, lines 13-15), and said
> indices map the pixel color set to at least one of said at least
> three colors (col. 14, lines 56-59).

Applicants respectfully traverse. Upon review of Ryan, Applicants do not find teachings of a codeword portion for storing a codeword(s); a bitmap portion for storing a set of indices; wherein the codeword(s) defines a set of colors that approximate a pixel color set, and said indices map the pixel color set to at least one of the colors. Relevant passages of Ryan teach

> ... [t]he color map memories 4, 5, 6 supply respective color
> component signals, which can be applied to display
> apparatus ... eight bits of [the computer main memory
> output] can be used to address the color map memories 4, 5
> and 6 during their writing ... color map memories 4, 5 and 6
> may store values of green, red and blue drive signals,
> respectively, for direct application to the color display
> device. (column 3, line 45 to column 4, line 16; emphasis
> added)

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This is in contrast to the recitation in claims 23, 33 and 37 of a codeword portion for storing a codeword(s); a bitmap portion for storing a set of indices; wherein the codeword(s) defines a set of colors that approximate a pixel color set, and said indices map the pixel color set to at least one of the colors.

For example, the Examiner asserts that the codeword portion of claims 23, 33 and 37 is taught in FIG. 1 by the RAM 4, 5 or 6. Ryan, at column 4, lines 13-16, teaches that "[t]he first, second and third color map memories 4, 5 and 6 may store values of green, red and blue drive signals, respectively, for direct application to the color display device." (emphasis added). The color map memories 4, 5 and 6 of Ryan simply supply color component signals to a display apparatus. (column 3, lines 45-47). Ryan does not teach codewords. The RAM of Ryan are not codewords and are different than the codewords of the present invention.

In contrast to Ryan, in the present invention a bitmap construction module constructs an image block bitmap using codewords (see claims 23, 33 and 37) associated with the block. Colors in the block are mapped to the closest color associated with one of the quantized colors specified by, or inferred from, the codewords. The result is a color index identifying each pixel in the block with an associated quantized color. (page 29, lines 5-10).

Further to this idea, once the codewords are selected, pixel values or properties, such as colors, for a given image block are quantized. The codewords provide points in a pixel space from which M quantized pixel values can be inferred, where M is an integer. The M quantized pixel values are a limited subset of pixels in a pixel space that are used to represent the current image block. (page 21, lines 15-20).

Related language appears in claims 23, 33 and 37. For example, claim 23 recites that "said codeword defines a set of colors that approximate the pixel color set, and said indices map the pixel color set to at least one color in said set of colors." (emphasis added). Claims 33 and 37 recite similar language. This teaching is different than the direct application that Ryan teaches.

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Further, using codewords the present system reduces the effective data size of an image, for example, from 24 bits per pixel to four bits per pixel. The present system also addresses transparency issues by allowing for codewords to be used with a transparency identifier. (page 30, lines 13-17). The codewords also reveal the block type (e.g., transparency or not). (page 38, lines 11-14).

Moreover, by using codewords the present system reduces the microchip space required for a decoder system because the decoder system only needs to decode each pixel to a set of colors determined by, e.g., two codewords. (page 44, lines 18-20). Efficiency of the present system is due, in part, to the fact that the codewords serve as reference pixel values, such as colors, from which quantized pixel values are derived. A bitmap construction module then maps each pixel color to one of the derived quantized colors. The codewords and bitmap are output as encoded image blocks. (Abstract). Therefore, Applicants do not find any teaching in Ryan of the elements of claims 23, 33 and 37.

Applicants have amended claim 38 to correct a typographical error. Accordingly, Applicants respectfully submit that claims 23, 33 and 37, and claims 24-32, 34, 35 and 38-44 which depend therefrom, are patentable over Ryan.

Rejections under 35 U.S.C. § 103

In paragraph 4 the Examiner rejected claims 25, 26, 38, 40 and 41 under 35 U.S.C. § 103(a) as being unpatentable over Ryan in view of U.S. Patent Number 5,822,465 to Normille et al. (hereinafter "Normille"). As stated herein, Ryan is deficient in that it does not teach the codewords of claims 23, 33 and 37. Normille also fails to teach the codewords of claims 23, 33 and 37. Therefore, Normille does not cure the deficiencies of Ryan. Claims 25 and 26 depend from claim 23 and are patentable for at least the same reasons. Claims 38, 40 and 41 depend from claim 37 and are patentable for at least the same reasons.

Allowable Subject Matter

Applicants thank the Examiner for indicating allowable subject matter in paragraphs 5 and 6.

In paragraph 6 the Examiner objected to claims 31 and 43 as being dependent upon a rejected base claim, and indicated that the claims would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. However, claims 31 and 43 depend from claims 23 and 37, respectively, which Applicants have argued above as being allowable in their present form. Therefore, claims 31 and 43 are allowable without amendments.
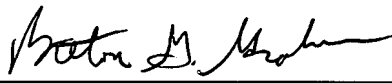
Attached hereto is an appendix entitled "VERSION WITH MARKINGS SHOWING CHANGES MADE," which is a marked-up version of the changes being made to this application by this Amendment.

Applicants respectfully request that the Examiner enter this Amendment, reconsider the pending claims, and issue a Notice of Allowance. If the Examiner believes a telephone conference would expedite prosecution of this application, Applicants request that the Examiner telephone the undersigned at the number below.

Respectfully submitted,

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Date: 10/1/02   By: _____

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